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in 1897, less than 300[1]; 1899, 261[2]; 1902, 233; 1903, 237; 1905, 174; 1906, 166 (?); 1907, 172. 161 174

The generation rate, i.e., the interval in years between parent's and child's birth, may be of interest. This is calculated from a revision of the agency census roll. 163

Average difference in years between father and child: 33.7 yrs (103 cases).
Average difference in years between mother and child: 28.2 yrs. (77 cases).
Average difference in years between parent and child: 31.4 yrs. (180 cases).

These Indians resemble the lower Colorado River tribes in general appearance, in build and physiognomy, more than the Navaho, Apache, and Zuñi. Hrdlička notes, however, that "they are physically identical with Apache." The stature of Walapai and Havasupai together is given by him as 168.4 cm. for men and 157.7 cm. for women.[4] There is a marked family resemblance within the group.[5] Their light complexions are noticeable; this has been remarked by Garcés, Cushing, and Smart.[6] 144 [141] [142]

Annual Cycle

A brief description of the yearly round of life will make the details of this sketch more coherent.[7] Early spring finds the Havasupai returning to the canyon from the plateau where they have spent the winter. By this time the snows have melted and they must descend to a water supply. The weather being still inclement some use is made of the caves or rock-shelters at the base of the cliffs while they repair the dirt covering of the houses in the fields below. Spring planting begins in the middle of April; meanwhile they live on corn taken from the little granaries in the cliffs and on mescal gathered from the red sandstone benches where it ripens in May. 221 [342]

Summer life is the fullest of the year. Everyone lives in the village, except for the few who are away trading Hopi and Navaho products with the Walapai or at Oraibi with buckskins of their own or Walapai manufacture. Morning finds the families in the fields; the heat of the afternoon (never excessive) is spent in the sweatlodge or at some favorite spot gambling and gossiping. Corn ripens throughout the summer, from [512]

[1] *Reports of the Commissioner of Indian Affairs*, 1897, 101; 1902, 103; 1903, 326; 1905, I, 164; 1906, 178; 1907, 177.
[2] *Statistics of Indian Tribes*, 37.
[3] This figure is probably incorrect due to a deficiency in the number of women of child-bearing years (see p. 208). When the mothers are principally old women, as in this case, the figure is too high, because according to chance the younger children of such women would more frequently figure among the survivors than the older. (The longer the course of the children's life the greater the chance of their death.)
[4] Hrdlička, (g), 413.
[5] A peculiar configuration of the whorls of the ear is common.
[6] Coues, 341; Cushing, 346; Smart, 418.
[7] See also Spier (d).

HOUSES

Most Havasupai families have two residences (*hdwa"a*); the group of structures in the canyon occupied during the summer, and a house on the plateau for winter living. The winter house is located in a clearing, just big enough for the house alone, in the midst of a dense cedar or piñon thicket, because these are warmest. The site should be a sandy, gently sloping hillside with a southern exposure. The typical year-round house is a dome-shaped affair, thatched and, depending on the season, dirt-covered. This serves against the rain during the summer. The second type in the summer camp is rectangular, with dirt-covered roof and thatched sides. Besides these the summer camp contains shade structures in a great variety of forms. Two other types are used, both in the canyon and on the plateau, which are considered of foreign origin: a gable roof structure and a polygonal log house built in imitation of the Navaho.

The dome-shaped house may be circular or somewhat elliptical in plan. (Fig. 31 ab.) It is quite conical, for, though the main posts are somewhat crooked, they are not sufficiently so to produce a hemispherical structure like that of the White Mountain Apache. The house is built on a four post foundation: two heavy posts (about 25 cm. in diameter) are set into the ground on opposite sides with their forks interlocking: two lighter posts are set four-square with these with their forks locking into those of the first pair. The space between these primary posts is filled in with an indefinite number of poles, leaving a gap for the entrance. These secondary poles are set in the ground separately,[1] with their upper extremities locked into the forks. Those which do not stand solid are tied at the apex. Flexible poles are tied horizontally around the framework with soapweed leaves, spaced 15 to 30 cm. apart near the bottom and somewhat closer at the top. These ribs do not cross the entrance, which is left free to about the height of a man. In the tightest winter houses, additional short poles are set upright close together all around the circumference, being tied to the horizontal ribs. The frame is now ready for the thatch, which is about 10 cm. thick. Brush of any kind may be used, but in the canyon "white" willow (*dmatama'*) is the best, and next in preference a long-leaved weed growing by the creek (*hdmaadva*). The first tier of thatch is tied on with the butts of the bundles resting on the ground; subsequent overlapping tiers are placed butt end up. The space above the entrance is often left open for a smoke-vent, but it

[1]The White Mountain Apache dig a trench in which to stand them and to receive the first row of thatch.

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a

b

Fig. 31. Typical Dome-Shaped Houses. a, With dirt cover; b, Without dirt cover.

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Fig. 32. A Gable-Roofed House of the Mohave Type.

Fig. 33. A Log House of the Navaho Type with a Shade constructed in Front.

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342 is sometimes thatched as well and no orifice is left. (Most cooking is done out-of-doors, however.) Flexible poles are tied over the thatch to hold it in place. Dirt is heaped up around the circumference to a height of about 60 cm. Some houses have an entrance-way added. Two stout posts, about two meters tall, are set up at the toe of the two slanting poles which form the entrance. A lintel is set across the posts, and corresponding beams tied to the slanting poles at the same height. Sticks are laid longitudinally between these, and covered with brush and dirt. Sticks are also tied horizontally between the upright posts and the slanting poles so as to form the sides of the entry: long brush is stood against these, and dirt heaped against the base. The door in all types of house is a blanket (never a buckskin) hanging loose from the top of the opening but devoid of a stiffening stick in the bottom. The house is usually heaped over with dirt, especially that for winter living, but the summer rains wash this cover from the steep pitched roof so easily that frequent renewal is necessary. Usually the apex was so poorly protected that smoke had no difficulty in finding its way out. Neither the groundplan nor height of these structures are laid out by measurement (one typical fair sized house measures 4.6 m. by 4 m. in plan and 3 m. to the apex). The summer house is placed with its entrance facing in any convenient direction: the winter house faces somewhat south of east, i.e., where the sun rises.

[177] The ridged house resembles a gable set on the ground. This is thought of as a foreign type. It is nearly square in groundplan, with the corners somewhat rounded (Fig. 32). Two heavy posts are set upright (in one house 3.75 m. apart), supporting a heavy ridge pole in their forks at a man's height from the ground. Poles are laid slanting against the ridge from both sides, leaving a space for the entrance, if that is to be on the side. Others are similarly laid slanting at each end, with the line of their bases 50 cm. from the base of the main post and their upper ends resting in its fork. Slanting poles also fill in the corners, the lower ends arranged around a quarter circle. Slender poles are tied horizontally around the structure about 30 cm. apart. The frame is thatched and covered with dirt in the same manner as the dome-shaped house. A stick is fastened part way up the slanting entrance poles to which a blanket is hung for a door. The space above the door is open for a smoke hole. Some of these houses have the entrance in the gable end, and the summer house even stands with one or both ends open as Shufeldt's and James's photographs show. The whole structure has usually such a low pitch and is so sand-drifted and brush-covered as to be amorphous. A typical house measures 4.5 m. square and 2 m. to the ridge pole.

[Text continues on p. 178]

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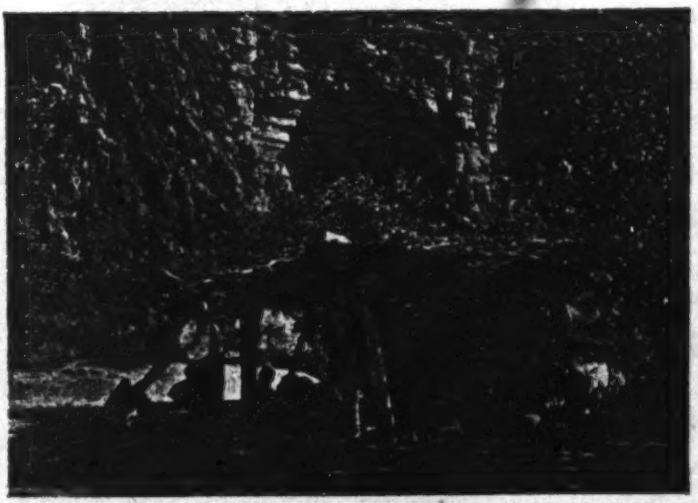

Fig. 34. A Shade or Open-Sided House.

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[492]

Fig. 35. A Rectangular Shade House.

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342 [177] The log house built in imitation of the Navaho is a polygonal structure of horisontally laid logs (Fig. 33). The roof is formed of lesser beams which are laid so that each consecutive tier cuts the angles formed by that below, thus drawing the walls into a very flat dome. This is covered with brush and dirt. Such houses are about 5 m. in diameter and about 2.5 m. high.

The second native type is simply the common rectangular flat-roofed shade which has been walled in (Fig. 34). The shade is built on four heavy forked posts (25 cm. in diameter) set in the corners of a square, about 3 m. on a side. Posts are also commonly set at the mid-points of two sides, and sometimes a third row of three is set down the center of the house. In setting such a post, dry sand is poured into the hole in which it stands, the pole is shifted up and down until the sand settles compactly about it, then the hole is filled with damp dirt, which is rammed home. Rafters (15 cm. diameter) lie in the forks of corresponding pairs or trios, about 2.5 m. from the ground. Poles are laid close together transversely on these rafters (or on an intermediate set), on which brush and then dirt is spread. This completes the shade as found in most camps, but if a house is desired three or four thatched walls are added (Fig. 35). Poles are set vertically into the earth along the sides about 30 cm. apart. Light poles are tied horisontally at about the same interval outside of these. This frame is then thatched in the ordinary fashion with long willow brush. Two or three poles are tied horizontally over the thatch to hold it in place. Soapweed leaves are usually used for tying all poles and thatch.

The dirt floor of houses is never treated in any way. In fact, the sand is generally thrown back from the center of the house against the walls in the course of time, so that the structure appears to cover a slight excavation.

[462] Practically all the work of house or shade building is done by men. At least, they perform all the heavy labor of cutting and setting posts and beams. Thatching and covering with earth are done by both men and women. There are no prayers or offerings made when building.

354 The interior arrangement of the dome-shaped house, the type most in use, is not rigidly prescribed. The fireplace (*otúwa*) should be in the center, i.e., not necessarily under the smoke vent. This consists of a slight depression, in which three stones are placed to support a vessel.
352 Beds were usually on the side opposite the entrance. These were slight hollows in which cedarbark mats and rabbitskin blankets are placed.
513 Beds are often located with the head to the east, for in this position the

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sleeper is free from troublesome dreams, will sleep soundly, and arise refreshed. The head of the house or a guest would sleep anywhere he chose. A man's personal belongings were hung over his bed. Food, baskets, etc., were placed nearer the entrance; the food furthest from it to guard against animals. If the house was high enough, a pole on which to hang blankets and skins, was fastened across above man height, but ordinarily this was placed at one side. Cooking is usually done outside.

Every camp has one or more shades which shelter the common domestic activities, and in some instances serve in lieu of a summer house. The shades are built in a great variety of forms; some, in fact, are quite amorphous. The commonest is the rectangular flat-roofed type described above: others are simply a slanting roof, like half a gable, a quarter sphere, like half a dome-shaped house, a barrel vault, and so on. Most are carelessly covered with brush, with dirt banked against them. Ladders (two poles with rungs tied on) are often provided to reach the roof of a house or shade in order to replace the dirt covering, store corn, etc. These are sometimes logs notched on one face. A cooking shelter may be made of boughs set up in a semicircle before the outdoor fireplace, forming a breast-high screen.

There are a series of small caves and rock-shelters (*oyd''d*) along the cliffs at the top of the talus slope which were used during inclement weather, particularly in the spring, during floods, and the uncertain period when raids were frequent, for they were conveniently located for escape up the cliffs when the alarm was given. A breast-high wall of rocks, laid dry, was built across the opening. Poles were set vertically in the space above the wall, others were tied horizontally across these, and the frame was thatched. A blanket partly covered the entrance, the open space above it providing a smoke vent.

A little ring of brush is raised for a temporary camp. This serves at least to keep out animals and the blowing sand. The White Mountain Apache have a similar usage.

Innumerable storage houses line the ledges at the foot of the cliff all along the canyon, standing high above the reach of floods. A stone wall is built about the mouth of a natural enlargement in a crevice to form a little house of a capacity of 3 to 5.5 cu. m. (Fig. 36). The wall is carefully chinked and plastered with a hard mortar to render it rodent proof. This is made of guano, found in the crevices of the cliff, mixed with dirt. A flat stone is set in the little entrance and sealed with mortar

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343 Storehouses resembling the dome-shaped domiciles are sometimes built in the camps to hold the green foodstuffs.[1]

Comparative Notes

342 The typical dwelling of the Havasupai, the dome-shaped, brush-
171 covered structure, seems to be the prevalent type in a considerable area of Arizona and the Great Basin. It is true that most of the Arizona types are referred to as dome-shaped or hemispherical, while those of the Basin are described as conical. But we are dealing essentially with

[313]
[291]

Fig. 86. Storehouses under the Cliffs of Cataract Canyon.

the same structure which seems to differ largely in the acuteness of its apex. As a matter of fact most of the dome shapes are sub-conical, and "conical" probably serves Lowie only for a descriptive epithet, for his few illustrations show sub-conical forms. The houses of the western Apache are perhaps the only truly hemispherical ones.

Taking these together we have this form among the Havasupai, Walapai, Yavapai, White Mountain Apache, Papago, Kaibab, Moapa, and the neighboring Tointeaa", Washo, Paviotso, Uintah and Southern

[172]

[1] A small stone ruin stands on a point of the cliff (at B, Fig. 80). Most of the walls have been roughly reconstructed as breastworks by the modern Indians. Sherds are plentiful: corrugated, black-on-white, black-on-red, and Havasupai pottery.

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Ute, and it was found by Stansbury west of Great Salt Lake.[1] The Yuma use it for their summer residence. The Navaho hogan is the same structure, perhaps a little more substantially built, but bark roofed like the Southern Ute house and dirt covered like the Havasupai. This brush lodge is used by the Mescalero and Jicarilla, but both groups prefer the tipi. The Lipan do not build this form at all. The San Carlos Apache house is hemispherical, but the poles are arched rather than looked together. To the south the Seri construct a rough elongated hemisphere of a series of arches, brush covered. This is a tiny affair more like the Havasupai sweatlodge than the dwelling, but inasmuch as it is dome-shaped and the other tribes of northern Mexico make use of rectangular structures of another sort, it may questionably be included with our group above. The Luiseño house, conical and brush covered, should probably be included as well, but Sparkman's description leaves room for doubt. The Pima and Maricopa have a composite type: a thatched and dirt covered hemisphere of arched poles is raised over a rectangular foundation.[2]

The covered entrance-way of the Havasupai is also found in the Navaho hogan.

This form of lodge is typical then of an area principally west of the Pueblos and in the Basin. It has marked analogies in the north in the mat-covered, hemispherical lodges sometimes used by the Wishram, Wasco, Nez Percé, Klamath, and some of the interior Salish, and in the Plains tipi to the east. Some of the eastern Basin peoples, in fact (Northern and Wind River Shoshoni, and Ouray Ute) build tipis which are covered with brush or grass in place of skins.[3] It has been conjectured that the tipi of the Plains and the wickiup to the west in the Basin are related forms. But it is not clear whether these Shoshonean structures are to be regarded as adaptations of the Plains tipi or whether the latter is a specialised form of an earlier type represented by these and the bark covered tipi of Canada. The relations with Californian types are not clear.[4]

One further comparative point should be observed here. The Havasupai erect the lodge on a four-pole foundation. This is also the case with the Southern Ute and it is true of the tipis of the same people and

[1] Dorsey, (b), 196, 199, 203; Corbusier, 253; Gubbard, (c), 2nd ed., 144; Gaillard, 283; Bartlett, I, 323; Powell, Fig. 43; Dellenbaugh, 1777; Lowie, (i), 218–230; Barrett, (b), 10; Mooney, (b), 1096; (c), 2nd ed., 132; Curtis, I, 84; Hrdlička, (d), 4'29; McGee, 221; Bandelier, (a), 55, 58, 80, 252; Lummis, (b), 6; Sparkman, 213; Bartlett, II, 238; Russell, (d), 154; Hrdlička, (e), 41, 42; Whittemore, 58.

[2] Lowie, (a), 123; (i), 221.

[3] See especially Mooney, J. A., (a), 123, 126; Kroeber, (g), 84, Plate 14; Diam, (c), 210, 211; Spier, (c), 239.

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171 the Wind River. Lowie has pointed out their resemblance in this regard
342 to the Blackfoot and Crow, and, to complete the list from Wissler's notes, the Sarsi, Hidatsa, Salteaux, Comanche, and possibly the Kiowa Apache.[1] It is important to know the foundation pattern for the other tribes of this area. For if they all use four poles then Lowie's suggestion might be reversed; the four-pole tipi of the Blackfoot, Crow, and others being derived from the Basin peoples. The Navaho at least use a three-pole foundation for the hogan. This is analogous to the usual Plains tipi. We should know what the Jicarilla and Mescalero use to solve this puzzle.

The gable house is typical of the Mohave, but is used by the Havasupai and White Mountain Apache. It is characteristic of this form that the walls closing the gable ends slant as well as the sides and that the corners are rounded. The Southern Diegueño house is presumably a related type, although it lacks these features. We should probably look to other southern and central Californian tribes for similar forms.[2]

The Navaho log cabin of polygonal groundplan is copied by the Havasupai. It has been suggested that this structure is related to the log roofing of some prehistoric subterranean kivas.

The flat-roofed, rectangular shade is very widely used but it is not
171 usually walled in. When three or four sides are closed it forms a definite
343 type of house, which furthermore seems to have only a local distribution. This includes the Havasupai, Moapa and Tointesa[a] Paiute, and Mohave. These Paiute houses are said to have sloping roofs, but I take this to be only a minor difference. The rectangular, gable-roofed house of the Cahuilla and of the modern Southern Diegueño may belong to the same type. The walled-in shade seems to be related to a type of structure used to the south by the Pima, Maricopa, Papago, and Yuma; that is, a similar rectangular house of which the walls are vertical poles wattled with brush and mud. This in turn bears resemblance to the houses of the Opata and Jumanos in northern Mexico.[3]

The matter of house types is further complicated by the reports of communal dwellings in southern California. We know little about these.

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[1] Wissler, (a), 110.
[2] Kroeber, (a), 277. Goddard, (a), 2nd ed., 145. The Moapa house referred to by Lowie [(b), 219, Fig. 7a] as of Mohave type is not characteristic of that tribe, although it is used by them (see *Handbook of American Indians*, I, 921).
[3] Bandelier, (a), 88, 89.

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422 Other property consists of houses, horses, dress, weapons and tools, and the immaterial possessions, shamanistic materials and chieftainship. So far as houses may be conceived as individually owned, they belong to 423 342 the male head, since he can send his wife (and children?) away. But nothing else is possible, since the field in which it stands belongs to him. [462] [768] At least all the heavier work of house building is done by the men. The house is burned after the death of an inmate.

Horses and cattle are owned and herded by men alone. They have 422 had a fair number of these ever since Spanish days: Garcés found them [462] plentifully supplied with live stock in 1776.[1] Two or three good riding [175] horses are killed on their owner's death; others are given away. Saddles [768] are often burned or destroyed, sometimes being left on the horse when it is killed.

Personal possessions are not numerous. Men and women own their blankets and clothing, with perhaps a gala dress apiece. A man owns his weapons, tools, some buckskins, and perhaps a mask and charm or two; a woman her household utensils, pots, baskets, and field tools. In other words, each owns the articles peculiar to his sex. Husband and wife own and dispose of their possessions independently. I have never seen either [593] interfere with the other's transaction when selling specimens to me: 422 advice was, however, sometimes asked and acted on. Children own little 432 or no property, a condition which struck both Cushing[2] and myself as 858 being sharply in contrast with that at Zuñi. For instance, when buying a small burden basket used solely by a little girl, her mother set the price. Laying this simply to the girl's bashfulness, I offered the coin to her Zuñi-fashion, but her mother objected, claiming it as hers. To test this, I attempted to buy a similar basket from Jess's little daughter. This had been made and presented to her by her paternal grandmother. But the bargain was struck by her parents, although they turned the purchase money over to her. Perhaps boys are somewhat more favorably situated, since they freely sold their bows and arrows when I met them hunting in sport. These weapons were all products of their elders.

A dying man states his wishes respecting the disposal of his posses- 428 sions. This includes land, although the succession to this is rather predetermined. To be sure, most of his choicest belongings, clothing, weap- [769] ons, horse, etc., are burned or buried with him. Such articles as are permitted to remain are inherited by his children or by members of his family. A woman's possessions go to her children or to her own family.

[1] Coues, 287 et seq.
[2] Cushing, (a), 351.

2:11iff Y-5 (ca. 1901) 1954 NT14 Plateau Yumans NT14
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872 177 leisurely; Vesnor did not drive those who came of their own volition. Nevertheless, this method of bringing children to school seemed wholly unnecessary, if not cruel.

"Why do you drive them?" I protested. "They should come to school without that."

"I no bring, swim in creek all day. I got no time to fool," came his indignant answer.

Vesnor's method of maintaining an average attendance of seventy-one out of an enrollment of seventy-two doubtless had been instituted by a former teacher, and must have grown out of necessity. I decided not to change it until I became better acquainted with conditions governing school attendance.

[157] The children were timid, but wholesome and obedient and gifted with a pleasing native charm for they had come in contact with almost no white people except those employed at the school. [142] Their complexions were light, because most of their day was without sunshine. They came to school with faces cleanly scrubbed, [516] hair sleek and often still dripping wet, and wearing clean uniforms. They had that beautiful stream, while the Walapai had only the water the women carried a long distance in cans or in woven bottles suspended from straps across their foreheads. Very [342] noticeable, too, was the effect of their permanent homes compared to the temporary shacks in which their cousin tribe lived. We allowed these children to wear their school uniforms home, where they folded them neatly and laid them over a pole near the ceiling of the house before they dashed out to play in the stream. What a relief it was—no faces to wash, no hair to comb, no sores to treat, no bath day!

Finally seventy-one children had crowded into the room (built to accommodate forty-six!). All—except Lucy. There was a suspicious silence when I called her name. The children stared at me with their honest eyes, but refused to explain her absence. So I read them a story and we sang songs until the room was light enough for study.

Recess gave us a breath of fresh air out under the trees. And

2:11iff Y-5 (ca.1991) 1994 NT14 Plateau Yumans NT14
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176 823 ages, battered by gales and floods which had brought down sections of the wall itself? The Indians must have asked themselves these questions many times. The wise men of the tribe gave them a satisfying answer: the indestructible god-spirit lived there to watch over and protect the people in their new home. The Indians spoke of these gods with the naturalness with which one mentions a neighbor or a friend.

"Our gods make gardens grow good. They watch over the people," they told me confidently.

And in a sense, I was indebted to their gods for this greatest adventure of my life. The Indians' well-being depended on these god-spirits, so they had refused to leave the canyon. When the Indian Office considered establishing a school for the Havasupai children, pressure was brought to induce the Indians to move to the plateau. It would be simpler for them to move out of the canyon than for the government to freight equipment for the school across the desert and down the precipitous trail. But the Indians became bewildered and frightened. "If we leave our gods, we die!" they cried. So the school came down to them. Yet the officials located it a little too far up the gorge for the gods to guard it with a watchful eye, which may account for the fact that, later on, it was destroyed by a flood.

631 311 Just beyond the gods, the walls swung apart. The broad, level floor between was occupied by the village. Spaciousness of land and sky inspired a sense of freedom. The cultivated acres were laid out like a checkerboard, in somewhat irregular squares, each displaying the mixed greenery of gardens and orchards. A fence of brush or poles enclosed each square, emphasizing the mosaic effect. The Indians had not completely removed the wilderness from the canyon; the stream could be traced by the tangle of wild vegetation lining its banks, and dense thickets claimed too much of the land. Old willow trees and cottonwoods dominated the scene.

342 The houses sat cosily near the gardens, or were connected with them by tree-shaded lanes. There were several half-dugouts, but

2:11iff Y-5 (ca.1901) 1954 NT14 Plateau Yumans NT14
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most of the houses were rectangular or dome-shaped. Their construction involved no expense. A man needed only poles, brush and dirt; by exchanging work with neighbors, his shelter was soon completed. There were no windows; the low doorways were closed with a blanket or a rough board door, hung on leather hinges.

Everywhere men, women and children were working in their gardens, stirring the soil, planting the seed, irrigating, weeding and cultivating the growing plants, although the sun's rays would not reach them for hours. They boasted that they worked in their gardens and orchards when it was "little light"; then the canyon was cool, the soil soft and pliable.

The fascination of watching them grow their food, preserve it and store it far outweighed my interest in gathering dry statistics, but Mr. Ewing wanted facts and figures. I knew I would encounter difficulties in getting the necessary information, especially from the older people who spoke no English.

At Chickapanyegi's home I watched the family at work on their small plot of ground. Chickapanyegi was irrigating his patch of corn. When he heard me approach, he turned, a quizzical, batlike expression puckering his countenance. The Indians must have noted that same expression, for his name, Chickapanyegi, meant "bat."

Here, again, the people appealed to those benevolent, unseen forces, especially in the first planting of their corn. The planter knelt on the ground, struck a wedge-shaped stick deep into the earth to loosen the soil, then offered a prayer that his corn might grow well, and dropped the seed into the place he had prepared. This done, he made an offering to two white blotches on the wall of the gorge—the first mythical ears of corn given to the people by their gods—by blowing toward them one grain of corn. At the conclusion of this sacred rite, the planting of the remaining ground was done in the usual manner.

Chickapanyegi's wife was weeding the plot, while his son, Jess, one of my pupils, was stirring the ground with a shaped piece of wood which he pushed through the soil like a small plow.

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Their garden was lush with corn, beans, pumpkins, watermelons and sunflowers that grew large seed heads. Purple figs and red-cheeked peaches grew at one end of the plot.

Chickapanyegi worked unhurriedly, pushing the dirt aside with his bare toes to open the floodgates, letting the water gush through to fill the ditches that ran between his rows of vegetables. Toes did the work of fingers, opening ditches or packing the soil to close them, picking up sticks and stones and piling them ready to be removed. Here was a way of life new to me and very intriguing. The Walapai that I knew lived in idleness on bare sand, accepting government rations, a few working at odd jobs. These people produced and stored food, not only for the immediate future, but for years ahead. At one time, the Walapai, too, had been self-supporting and self-sufficient; then agents of the government had come, using rations as a buying power, and had established controls that crushed initiative.

The Havasupai had devised their own garden tools, even making a spade by fashioning the blade and handle from a long, flat piece of wood. They used the shoulder blades of horses or anything they could get that would loosen the soil or chop weeds. Obviously they were greatly handicapped by these primitive tools; sticks, bones and toes were poor substitutes for spades, hoes and rakes. The Indians themselves restricted production by refusing to till inherited land until it had lain fallow for a year or more. The spirit of the dead might at any time return to its former home, so they would not make immediate use of such land, partly through fear, but also to show respect to the former owner. Thus many acres of fertile soil lay fallow, necessitating more intensive cultivation of the land in use.

Tending their crops and preserving their food was the main object in life for the people of this village. Always the crop was divided into portions: some for eating, some held for an emergency, but the best kept for seed.

Chickapanyegi's rectangular house stood near his garden. The flat, brush-covered roof, topped with earth, and the sides, thatched

2:Iliff Y-5 (ca.1901) 1954 NT14 Plateau Yumans NT14
Havasupai

with heavy boughs still fully leafed, kept the interior cool. An open porch sheltered the doorway. When his wife wiped the soil from her hands and entered the house, I intended to follow, but hesitated as I caught the odor of cooking meat. It came from a lard pail, propped on stones over an outdoor fire. She turned and motioned for me to lift the lid; she was pleased that they had fresh meat, for it was far from plentiful. Curious to know what she was cooking for the family dinner, I uncovered the pail.

Two large glassy eyes stared at me from above the boiling water, and made the cooking rabbit seem alive. The hairy ears stood erect increasing the impression. The skinned body had been crammed into the bucket, but the head had refused to remain submerged. The lid dropped, clattering from my hand. Since then I have not cared to eat rabbit!

The interior of Chickapanyegi's house was arranged like all well-kept Havasupai homes: rolled bedding in the depressions in the floor where the family slept; personal possessions tied in a cloth and hung above the bed; and the inevitable pole, just below the ceiling, loaded with rabbit skin blankets, fiber mats, Navaho blankets and clothing not in use. Poles supported drying ears of corn and spirals of squash that brushed the head and shoulders as one moved about within the house.

I wanted next to see Gentle Annie's home. Her house would not be neat and spotless if Gentle Annie was the housekeeper. She was old and tired from the wars she had survived and the hardships life had dealt her. I found her standing at the door of her dome-shaped wickiup. Her wrinkled face and bright black eyes held friendliness. That may have been why she was known to Indians and to whites as Gentle Annie, the only name I ever heard for her.

A brand-new bedroom chamber, pink roses painted on its yellow side, stood on a box near by—filled with delicately browned navy beans.

With toil-worn hands Gentle Annie reached up to the lintel, took down a hard, dry slab about twelve inches wide by sixteen

2:11ff 7-5 (ca. 1901) 1954 NT14 Plateau Tribes NT14
Havasupai

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The old basket weaver's home, built of poles, bark, brush and discarded clothing

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Mother carrying her baby in a burden basket. Her home is typical of the Havasupai house of a generation ago

[p. 116 N]

2-Cliff Y-5 (ca. 1961) 1964 MT14 Plateau Tonto MT14
Havasupai

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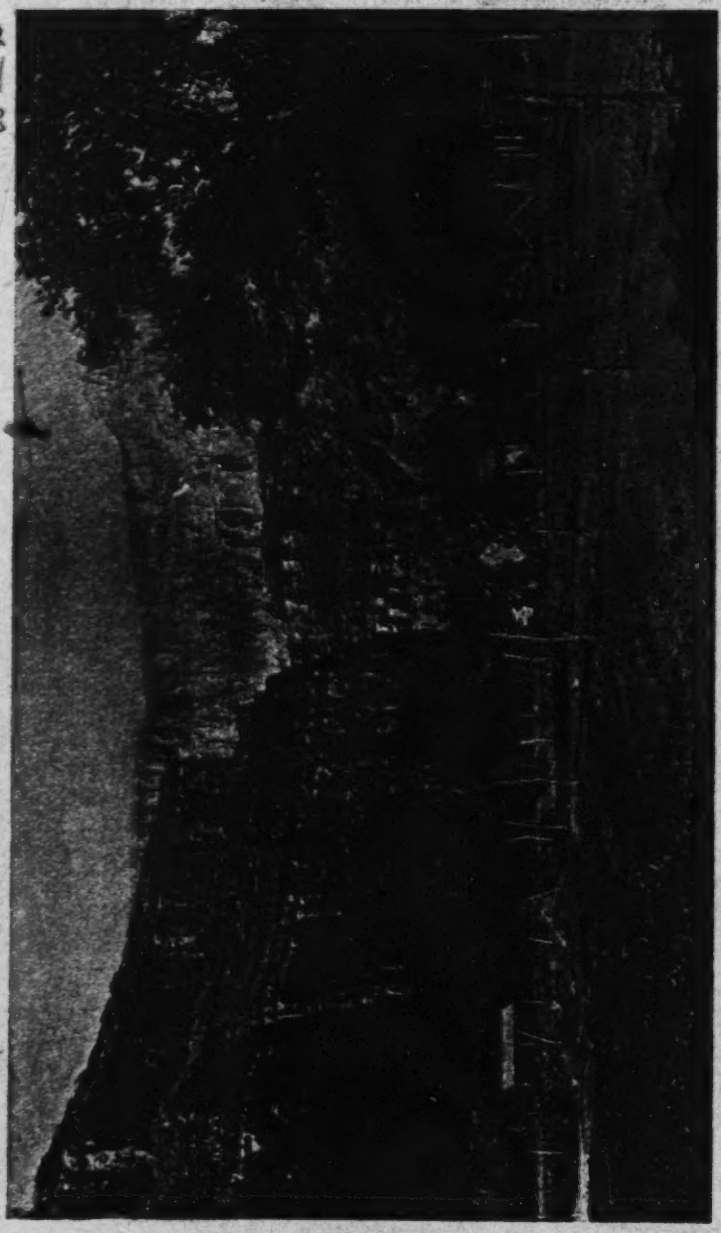

Al Schreiber

Havasupai homes of today with fenced plots for gardens or corrals. Note the limestone cliffs of the outer walls in the distance

[p.116P]

3:James T-5 (ca.1908) 1903
NT14 Plateau Yumans NT14
Havasupai

133 361 layers are of differing thicknesses, wind in and out, as if following the meandering course of the stream, and over this the perfect blue of the Arizona sky. These make the most marvellously picturesque dwelling-place of America. Even Acoma's mesa heights and Walpi's precipice-surrounded walls are not more picturesque, and when you add the charm of the verdure nourished by the sweet waters of the Havasu, the picture is complete in its unique attractiveness.

Not even in the Green Emerald Isle, or the county of Devonshire, or the vineyards of France, is richer verdure to be found than fills up the open space between these great walls. Willows reveal the winding path of the Havasu, and everywhere else are the fields of the Indians. Patches of corn, watermelons, squash, canteloupes, beans, sunflowers, chili, onions, and alfalfa, with here and there peach, mesquite, and cottonwood trees, abound. As a rule these patches are protected and set off one from another by hedges of wattled willows or fences of rudely placed cottonwood poles. Through the fields trails meander in every direction, and they are also "cut up" by irrigating ditches. Some of the better irrigated fields are divided into small sections — like the squares of a checker-board — in order that the water may be more systematically distributed.

133 241 311 [487] [312]

● 342 The peaceful *kawas* of the Havasupais nestle here and there among these verdant growths. Themselves covered with willows, it is often hard to distinguish them from the trees, were it not that at our approach small groups of men, women, and children, some clad in flaming red, others in all the colors of the rainbow, and some in even less than Mark Twain's descriptive smile, stand forth and reveal the dwelling-places. Now and again [291]

3:James T-5 (ca.1900) 1903
NT14 Plateau Yumans NT14
Havasupai

the curling line of bluish smoke of the camp-fire reveals the hawa, and we gladly avail ourselves of one or the other of these marks of identification to make ourselves more familiar with the real home of the Havasupais. After investigation we find there are several distinct types of houses, all simple and primitive, and yet each different from the other.

Chickapanagie's summer home is a type of the simplest character. Two upright poles with forks at the top, standing about six feet high, are placed in line with each other fifteen feet apart. A cross-beam is placed on these uprights. Then a row of poles, about eight to nine feet in length, is sloped against the cross-beam. These are covered with willows, and there is the completed hawa.

What queer dwelling-places men have, and ever have had, and possibly ever will have. At the Paris Exposition of 1889 one whole street was devoted to a history of inhabited dwellings. At one end were the earliest "homes" of the paleolithic age, caves and huts, followed by the Lake Dwellings and the wickiups, tepees, or tents of the present-day Indian, the latter being the same primitive structures the aborigines have ever used. The other end of the street was devoted to the domestic architecture of our own day, and there, in a few hours, one could study almost every known form of home structure. But who could ever reproduce some of the homes these Havasupais live in? Wicker huts in the open, and caves in the faces of solid sandstone walls two thousand feet and more in height, these in turn surmounted by domes and obelisks and towers and cupolas that no modern architect dare attempt to rival.

These massive walls absorb the heat of the sun in

3:James T-5 (ca. 1900) 1903
NT14 Plateau Yumans NT14
Havasupai

342 summer time and thus keep the canyon intensely hot both night and day. The large flow of water and [137 the dense growth of willows and other verdure keep 132] the soil constantly moist, so there is a humidity in the atmosphere which, in hot weather, makes it very oppressive.

132 This moisture renders the canyon cold in winter, although the thermometer never ranges very low. Snow falls but seldom, and then disappears almost as soon as it lights. In 1898 there was snow that stayed on the ground for several hours, but this was one of the severest winters they have had for many years.

133 A hundred yards or so below where the springs commence to flow Wallapai Canyon enters from the left. It is similar in appearance to, though narrower than, Havasu (Cataract) Canyon, the walls being of red sandstone, the strata of which are as regular as if laid by masons. A few hundred yards beyond the junction of 491 the two canyons a remarkable piece of Indian engineer- 499 ing is in evidence, showing how the Indians ascend 133 from a lower to an upper platform. There is a drop here in the stratum of some twenty-five or thirty feet, and to overcome this obstacle the Havasupais built a cage with logs which they filled with stones, and then from this stretched rude logs up and across, to which other logs were fastened, thus making a fairly substantial bridge from the lower to the upper stratum over which their horses as well as themselves could safely pass. The trail from this point ascends through tortuous canyons a distance of seven miles to the territory occupied by the Wallapais.

133 Just below the entrance to Wallapai Canyon a vast mass of talus has fallen, and two hundred yards farther

3:James T-5 (ca.1900) 1903
NT14 Plateau Yumans NT14
Havasupai

sible — which their traditions say were once occupied by certain families, the names of which are still remembered. All throughout the Grand Canyon region, too, from the Little Colorado River to Havasu Canyon, their cliff-dwellings, and smaller cliff "corn-houses" and mescal pits, are to be found. Indeed, the Havasupais built all the trails that are now being claimed as the work of white men into the heart of the Grand Canyon. The Tanner-French trail, the Red Canyon trail, the old Hance trail, the Grand View, Bright Angel, and Mystic Spring trails, are all old Indian trails. Not only are the cliff-dwellings and mescal pits proof of this, but the Havasupais can tell the families to whom they originally belonged and to whom the rights in them have descended. These rights they rigidly adhere to. It is the white man who knows no law as far as the Indian is concerned, and little by little the aborigine has lost springs, water-pockets, and trails, and is regarded and treated as an unwelcome visitor.

By this it must not be inferred that the Indians built the trails as white men build. In the main their trails were rude paths such as the mountain sheep might make, but in every case they had one of these rude pathways down into the canyon somewhere near to where the modern trails are now located. At the Bright Angel this path was changed when white engineers took hold of it, and at Mystic Spring Mr. Bass had built an entirely new trail, down a different slope, long before he discovered the Indian trail. Both unite near two great natural rock-cisterns, and then deviate below, the Indian trail zigzagging to the left, while Mr. Bass engineered a new trail of easy grade on the talus to the right.

Some of the Havasupais are returning to the cliff-

3:James T-5 (ca. 1900) 1903
NT14 Plateau Yumans NT14
Havasupai

dwelling style of homes. My friend Wa-lu-tha-ma is forsaking his wood and brush "hawas," and constructing a house under the cliffs, where, as he quaintly puts it, he can "keep dry when much rain comes."

It seems to me a reasonable supposition that it was from the frequency of the occurrence of these corn-houses in the walls of Havasu (Cataract) Canyon, with the occasional appearance of a few of the larger houses used as dwellings by the Havasupais, that the absurd and romantic yarns had their origin that fifteen, or less, years ago, were current in Arizona and elsewhere about this interesting people. The cowboys, miners, prospectors, and others, who accidentally stumbled upon the upper entrance to the Havasu Canyon, and wandered down its meandering course for ten or forty miles, even to the village of the simple Havasupais, returned to civilization and propagated and circulated stories that out-Munchausened Munchausen. They said these people were cliff-dwellers, living at the present day in the walls of the canyon; they were of powerful physical presence, and possessed great endurance. Their fields and gardens were wonderful, and their peach orchards surpassed those of most civilized cultivation, and they held in slavery a lesser people, dwarfs or pigmies, doubtless, who were cliff-dwellers like themselves, and whom they compelled by great cruelty to perform the most arduous labors.

Others, having heard these stories, but whose spirit of adventure took them no farther than the "rim" of the canyon, claimed to have looked into the village and side canyons, and there seen the truth of these stories demonstrated. They had seen the pigmies and the gigantic Havasupais, had heard the harsh yells of the

latter at the former, and had seen the frantic endeavors of the little people to obey the stern behests of their masters. 174 342 648

All these yarns are explained by the fact that the distance of view dimmed the vision; the pigmies were boys driving the burros or horses, yelling and shouting as Havasupai boys delight to do, the voices magnified fifty-fold by the echoing walls of the canyon, while the parents moved around attending to their own business, or looked on and occasionally helped by a shout of encouragement or suggestion. [857]

3:James T-5 (ca.1900) 1903
NT14 Plateau Yumans NT14
Ha'vasupai

CHAPTER XV

THE SOCIAL AND DOMESTIC LIFE OF THE HAVASUPAIS

342 362 FROM the cradle to the grave the life of a Havasupai is practically an out-of-door life. Their hawas — even the best of them — are partially exposed and open, and in the summer hawas there is no pretence at what among civilized peoples is essential privacy.

526 The games of the Havasupai children seem very few. I have seen only three. Of the first importance is shinny, or, as they call it, *tha-se-vi'-ga*. The goals are *go-ji-ga'*, the ball, *ta-ma-na'-da*, and the playing stick *ta-so-vig'-a*. The boys enter into this with the zest one would expect of such a time-honored game, yet, such is their general indifference to prolonged effort, they do not play it very often.

An easier game, but generally left to the girls, is, *hui-ta-qui'-chi-ka to-ho'-bi-ga*, which I have fully described in my book on the Grand Canyon.

[177] The third game is stolen bodily from the Navahoes, except the name, which with the Havasupais is *Tŏd-wi-ga*. It is the Nan-zosh, and is elsewhere fully described in these pages.

181 Such a paucity of games is indicative of low mental power, lack of imagination and invention, and results in, or perhaps *from*, a slow, heavy mental tempera-

At an elevation of 4000 ft., the Esplanade, 1 mi. wide in places, crumbles away in ragged steps through the upper strata of the Supai formation. Abruptly, vertical walls break away, dropping 500 to 800 ft. and forming the narrow inner gorge of Cataract Canyon. The Supai formation, composed of sandstone and shale, locally is called the Redwall in reference to its color, which contrasts with the Whitewall above. This is not to be confused with the geologic designation of the Redwall limestone, an underlying formation exposed downstream from Supai village in the area of the waterfalls. It is from the crumbling top of the Supai formation that storms wash huge boulders which tumble and crash to the canyon below. 133 [103]

The Factor of Water Supply

The existence of permanent water sources determined the residence pattern. The Havasupai have been described as seminomadic, but a more accurate term might be seasonally migratory. On the plateau, families sometimes built temporary brush shelters when they were harvesting pinyon nuts or other occasional crops, or when the tribe assembled for ceremonial or other purposes, but for the most part, families erected permanent structures to which they returned year after year as long as the house was deemed suitable. The presence of water within a reasonable distance was the determining factor in the location of both permanent and temporary camp sites, excepting those of the most transient nature. There were a number of permanent springs known on the plateau, and the karst topography provided natural reservoirs for retaining precipitation. It is speculated that the prehistoric Havasupai, with the karst examples before them and having the engineering skill and industry to build and keep in constant repair the canyon irrigation system, probably built dams on the plateau to impound water at some of the sites now similarly used by them or neighboring ranchers. 221 312 [342] [361] [241]

Water sufficient for irrigation was present at a site called Indian Gardens, which was located a short distance below the canyon rim on Bright Angel trail and which was farmed by the Havasuapi in early historic times. Prospect Valley, west of Cataract Canyon, also was farmed (Spier, personal communication, 1957). In addition, several other areas, including one on the floor of Grand Canyon proper, were farmed by means of irrigation. 241 312 311

In Cataract Canyon,* a short distance above the village area, numerous springs emerge on the canyon floor, flowing over impervious shales in the Supai formation. The water is highly charged with minerals, travertine being deposited along the stream's course. This deposition accounts for some of the erratic behavior of the creek. Masses of crumbling travertine jut from the ground here and there, evidence of past shifting of the creek channel. Havasu Creek,* swollen by melting snow or desert cloudbursts, churns its banks into mud, sometimes sweeping away a man's field and the ground beneath his house. 133 312

*The names, Cataract and Havasu Canyon and Cataract and Havasu Creek, appear interchangeably in the literature and all four terms are in common usage among residents of the area. [103]

[Text continues on page 10]

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Fig. 8. Shelter and storage cist. A, Cave or rock shelter formerly occupied during gardening seasons before the Havasupai took up permanent residence in the canyon. B, Storage cist constructed of stones and formerly used for dried foods. The young woman in both pictures is Virginia Siyuja.

4: Smithson E-5 (1951-1958) 1959 NT14 Plateau Yumans NT14
Havasupai

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Fig. 9. Havasupai dwellings. A, Semi-subterranean, rectangular log house, now used mostly for storage. B, Old style thatched, conical lodge with gabled passage entrance. In front of house is a brush-roofed shelter used for cooking and most family activities in good weather. C, Two-room frame house donated by the Federal government after the 1910 flood, and a one-room structure built of scrap lumber and used for extra sleeping and storage space by family of nine members.

Among those tasks commonly allotted to women, child care and cooking were the two which occupied most of her waking hours. While child care was primarily a feminine responsibility, men shared or assisted in it when they were at home, as previously described. Cooking, on the other hand, usually was not a regular occupation of a man even on a part-time basis, except for those men who lived alone or had no woman in the household. However, if an old couple lived alone and the man were the more robust of the two, he did the cooking or assisted with it. Whenever the wife was absent or indisposed for a brief interval, it was not beneath her husband's dignity to cook, although he might choose to eat with a relative if his dependents were not too numerous. 462

Women gathered wild plant foods within a short radius of camp, but trips of longer duration or greater distance were usually undertaken in company with their husbands who shared in the work. Gathering the pinyon harvest was a family project in which everyone worked and groups of families camped close together, making it a gala outing lasting two or three weeks. Each family moved from place to place until they judged their harvest adequate for their needs. [222] [476]

After the harvest of pinyons and other wild plants in which men helped, it was women's work to roast, husk, grind, and otherwise prepare the food for immediate use or storage. Likewise, women prepared for storage all foods harvested from the fields. Spier (personal communication, 1957) adds that men might also prepare food for storage, especially if they had no women to do it. [251]

Pottery was made by women, but its use was abandoned so long ago that the oldest living tribal members probably saw its manufacture only in early childhood if at all, and only a scant description could be obtained from informants. Location of clay deposits is still common knowledge, however, and one man pulled a sample of powder-smooth texture and almost white color from under the eaves of his house where it had been used for chinking. Clay deposits still exist in Cataract Canyon, notably near Navaho Falls and near the mouth of Ash Canyon, a tributary. Other clay deposits used are located on the plateau near Pine Spring and elsewhere. Clay was excavated either by women or men. [323] [317]

Basket weaving was exclusively woman's province, but basketry materials were sometimes gathered by men. [285]

The Havasupai did no beadwork or embroidery in early days. Twenty or 30 years ago several girls learned to do beadwork while in school at Fort Mohave, but few if any of them have used the technique in recent years. [306] [871]

Construction of houses and brush shelters used in summer is a family affair, and occasionally most of the community will join in building a house [342] [476]

462 for someone who needs help. The heavier work is done by men while women
[342] generally do the thatching. However, with house design and materials chang-
[476] ing, housebuilding is now a masculine task.

Barter was popular among both sexes, both within and outside the tribe,
462 each individual trading the fruits of his own labors. Women usually traded
439 baskets while men traded tanned or raw hides. Both might trade dried and seed corn, pinyon nuts, mescal, and other wild plant foods. Men sometimes traded buckskin clothing, powdered ocher, or tools of their own workmanship. Havasupai trading parties consisted of family units or all male groups; women of course did not go off alone to trade. The Havasupai also obtained articles from one neighboring tribe to be used as trade items with another neighbor. Spier (1928, 244) reports that "An active trade was conducted with the Navaho and Hopi to the east and with the Walapai and Mohave to the west. In fact, we may properly speak of a northern Arizona trade route from the Hopi to Mohave, independent of more southerly tribes and cut off from these to the north by the Grand Canyon." Buckskin was the Havasupai article most in demand among other tribes.

Recent Employment

Service ascribes a postulated increase in male prominence and a cor-
461 responding decrease in importance of woman's economic role, in part, to
177 a change from male hunting and female gathering to a subsistence based
562 mainly upon male agricultural activities, and, further, to "white influence" which, he writes, "is undoubtedly effective in promoting male predominance" (1947, 361).

This hypothesis appears subject to modification today. Spier (personal communication, 1957) supports the following conclusions:

First, a survey of women employed permanently or seasonally either on or off the reservation reveals that several maintain themselves, while many others contribute to the support of their parents, husbands, or children. Women remain active in gardening activities as they have always been, but some of the heavier work is reduced for both sexes by use of the tribally owned tractor operated on individual plots by an individual appointed by the tribal council.

Secondly, it is difficult to imagine that the white cultural group, which socially, politically, and economically accords women almost unprecedented status, rights, and privileges, can be responsible for promoting predominance of the Havasupai male or for minimizing the economic importance which the woman had under aboriginal conditions.

562 Women have not been idle at any stage of economic adaptation which
464 the tribe has undergone beginning with depletion by the whites of natural
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NT14 Plateau Tunnels NT14

Havasupai

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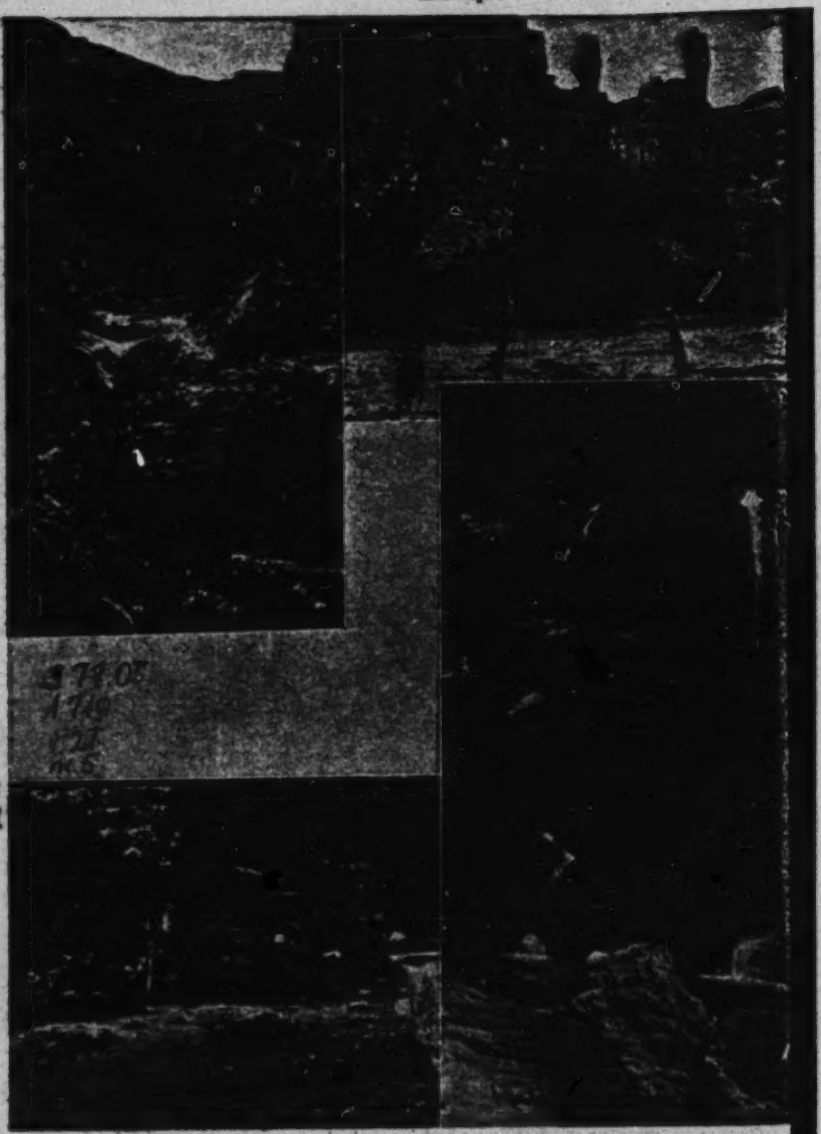

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Above are scenes from Havasu Canyon, isolated canyon tributary of Grand Canyon and home of the Havasupai Indians. Top left shows Cremetery Gulch in the lower "haunted" section of the canyon, where the dead were once cremated in the caverns along the sides of the gulch. Top right shows the Twin Gods opposite Supai village. Bottom left is a Havasupai hogan and bottom right is a beautiful little waterfall below Mooney Falls.

[p. 2]

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THE HAVASUPAI

fist are spread over this to a depth of about five inches. A fire is then built and allowed to burn until the wood is nearly consumed and the stones are red hot. Several men pound on the pile to reduce it to about ten inches below the surface of the ground. The women have the mescal piled around the pit conveniently at hand. The pit is divided in sections among several families; when the mescal is put in it, some plants are placed on edge to mark these divisions; the others are packed in betweeen. The mescal is covered with grass, canvas, or gunny sacks—and over the top a layer of wet sand is thrown. Forty-eight hours is the usual time required for roasting mescal. Occasionally some of it is dried and ground into a meal from which several dishes are prepared. 252

The fruit of the prickly pear cactus ripens in September and is gathered in great quantities. The fruit is broken off with tongs, rolled in the sand with a brush of twigs, and finally rubbed with a piece of cloth to remove the spines completely. Basketsful are carried home, the fruits opened and spread on arrow-weed mats to dry in the sun. 222 [25]

The fruit of the yucca ripens in September and is found in abundance on the land above the canyon. A layer of this is arranged on a bed of dry sticks, about three feet in diameter. The sticks are fired until the rind of the fruit is burned black, then it is removed, thrown into a pile, and sprinkled with water. The burned rind is removed and the seeds separated from the pulp. The pulp is spread to dry on a layer of grass or Mormon Tea sprigs. The dried yucca sheet is folded and stored. Pieces are broken off and eaten dry or they may be cooked. 222 252

The Havasupai women take pride in their hair, washing it weekly in a yucca suds—a soap substitute made from the roots of the narrow-leaved yucca pounded into a pulpy mass and dried. After being thus washed, the hair is soft and glossy. 515 524

The Havasupi house *(kawa)* cannot be classed as either a wickiup or *hogan*. Some are built of willow brush, conical shaped like a tepee; others are constructed like a tent with horisontal ridge pole at the top and a few are built with straight brush walls and a flat roof covered with dirt and thatch. Floors are of dirt and are not treated in any way. The loose sand and trash that accumulates is swept back from the center of the house against the walls and after a time the structure appears to cover a slight depression. Saddles, hides, and other possessions are pushed into corners. Many of the belongings are stored in paper cartons and lug boxes. The cooking is done on a wood burning stove or open fireplace in the middle of the floor, the smoke escaping through a hole in the roof. Living in their remote canyon where everything has to be packed in on horses over a steep winding trail, the Havasupai have few modern household goods. 342 [354] [352] [354]

At night, blankets or small thin mattresses are spread on the ground to provide beds. In the morning, all the bedding is rolled like a cowboy's bed roll and piled along the wall. A few families own modern beds, but the ground is generally used. Beds are usually placed with the head to the east; in this position the sleeper will be free from troublesome dreams, will rest well, and arise refreshed. 513 [17]

Some years ago the government built for the Havasupai a number of two-room frame cottages, but the Havasupai would not give up their old ways. They stored their farm tools, melons, squash, and other supplies in the frame houses and continued to live in thatched houses close by. Today most of these houses are occupied by the Indians at least a part of the year, but some claim the government built houses are too hot in summer and too cold in winter. 177 342 648

The construction of these houses probably has had something to do with the diminishing custom of storing surplus food supplies in cavities in the rock high up on the canyon wall. In olden times each family had its own storage chamber which was sealed up with rocks and mud 343 423

343 plaster. Marks were made on each seal so that the owner could
[423] readily identify it. These high storage chambers always kept the In-
dians' food supply safe from the floods that rushed down the canyon at
times. The summer climate in Cataract Canyon is very hot. The rock
[33] walls absorb the heat of the sun during the day and only a part of
this stored heat is radiated during the night.

252 Most of the tribe live much of the time out-of-doors. The cooking
is done over an open fire and the other household work is performed un-
der trees and brush shelters. In winter the sun lingers only six or
132 seven hours between the cliffs, imparting but little heat, and the nights
361 and mornings are very cold. Because of this and lack of fuel, most of
the tribe leave the canyon during the winter months and live on the
plateau around the head of Topocobya Trail on the east. Here there is
plenty of pine wood for fuel and good grazing for the horses. On the
[342] plateau, the house is a sort of *hogan* of logs and earth, more solid in
construction than in the canyon.

264 In the summer most of the cooking is done out-of-doors and the
[252] meals are served there also. The cooking pots and pans, baskets of
fruit, trays of bread, water bottles, and coffee pot are placed together
on the ground. A large vessel containing ground rock salt always
[563] stands nearby, but very little is used, and practically none at all in
the process of preparing food. The family groups itself about these,
sitting on the ground or on boxes within easy reach of the main dish
of the meal. Sometimes plates and spoons are used, but usually pieces
of meat and vegetables are fished from the stews with the fingers,
twigs, or knives, while mush is scooped up with chunks of bread. Gen-
erally the women and children eat with the men, but when they are
visiting male relatives or friends they usually wait until the men are
through.

252 Cooking utensils are of the simplest kind—cheap tin kettles, lard
415 cans, and tin buckets. Some characteristic Indian utensils are still in
[58] use. A shallow basket woven of willow splints, lined with a coating
which may be red clay, stewed peaches or other sticky substance, is
used for roasting piñon nuts and corn. Hot coals are put in the bas-
kets and shaken around until the nuts or corn are roasted.

[227] The conical shoulder-hung basket is still in use for gathering vege-
252 tables and fruit. The *metate* stone for grinding wheat, corn, acorns,
412 and piñon nuts is extensively used. The *metate* is a flat slab of hard
stone (the *mano*) held in the hands. When not in use the *metate* is
turned upside down with one edge resting on the *mano* to keep it off
the ground. A brush made of mescal leaf fibre is used for cleaning
the *metate*. Stone mortars, and pestles, are used for pounding dried
meat, piñon nuts and corn, also.

177 The Havasupai have adopted the white man's mode of dress. The
291 men wear overalls or corduroy trousers, blue cotton shirts, jumpers
302 large cowboy hats, and boots or shoes. Their hair is cut short. The
women wear long, wide-skirted dresses, which they make themselves,
of calico and print in the brightest colors obtainable. Ten yards is the
usual amount of material required to make a dress. The hair hangs
down in long bangs over the forehead so it almost obscures the eyes.
It is cut shoulder length in back. Their hair dressing is about the
only thing distinctly Indian unless it is the brightly-colored handker-
chief tied loosely about the shoulders. Shoes are of American manu-
facture, a high top, low heel lace shoe for the older women and oxfords
for the girls and young women. Moccasins are sometimes worn by the
older men and women. During the warm weather the women and chil-
dren go barefoot around camp.

291 Formerly both men and women wore moccasins. The man's moc-
casin consisted of two pieces. The sole was made of the thickest part

from Peach Springs is a good one and the trail from Walapai Hilltop to the village is only eight miles long. It is this way that most visitors come.

The lasting impression one receives when descending any of the trails is one of almost overwhelming awe. The great walls rise higher and higher and as the gorge they enclose grows so narrow that sometimes the sky is scarcely visible, it seems that the canyon has claimed for itself the puny creatures plodding through it. The experience is inspiring, exhilarating and sometimes uncomfortable. To heighten the sensation a hot, dry breeze stirs constantly and except for an occasional desert plant that stubbornly remains green, everything looks as if it hasn't seen water for a thousand years. Just as one begins to adjust mind and body to this oppressive, dry heat, however, the canyon takes another of its endless turns and suddenly the air seems to cool and freshen. At first the senses only suspect this new presence, but after rounding another bend, the eyes and ears confirm it, for a luxuriant growth of small willows and cottonwoods appears and the welcome, singing sound of a stream can be heard. Here, seeping from the canyon floor about a half-mile above the village, is the water that makes Cataract Canyon habitable. As the tiny stream trickles along, many small springs add themselves to it until, a few hundred yards from its birthplace, Cataract Creek is full grown.

As the creek hurries busily on through it, the canyon widens abruptly to nearly a quarter-mile across and neatly fenced fields and orchards spread out between the great red walls. This is the village. This is Supai, the home of the Havasupai Indians.

The village is spread all over the canyon floor. The only concentration of buildings is that of the homes built by the government for the agent and a school teacher. Not far from them is the small schoolhouse, the mission, and the Indian store. The Indians have tended only slightly to cluster about this center of community activity. Many of the aboriginal dwellings have been replaced by small wooden frame houses which were first introduced by the government as a relief measure after the tragic flood in January, 1911, when five days of thaw on the plateau was followed by several more days of heavy rain and the accumulated water rushed through the canyon in a flood crest which utterly destroyed the village and most of the fields. Some of the old earth and pole houses may still be seen. Many of the families prefer them to the more modern ones for

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An old-style conical house with a cooking shelter in front.

342 they are cooler in the summer and can be kept warmer during the cold weather. Many of these old-style houses are conical in shape but most of them are longer than they are wide and have sloping roofs of dirt which nearly reach the ground on either side. Very few of them are made of stone.

241 In passing through this wide part of the canyon one may see a great many small fields. Most of them are planted with corn but close examination shows that growing in the same fields between the corn plants are beans, squashes, pumpkins, sunflowers, watermelons, tomatoes and potatoes. Many of these plants were introduced after white contact, of course, and among them are the fruit trees which stand in orchards in some parts of the canyon and grow along the trails everywhere. Peaches, apricots, figs, pears, and apples are now part of the standard diet in Supai and even pecans, plums and pomegranates are grown.

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[245]

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101
131 Sierra Mogollon to the San Francisco mts. and along the valley of the Colorado Chiquito. The tribe is a peculiarly interesting one, since of all the Yuman
173 tribes it is the only one which has developed or borrowed a culture similar to, though less advanced, than that of the Pueblo peoples; indeed, according to tradition, the Havasupai (or more probably a Pueblo clan or tribe that became incorporated with them) formerly built and occupied villages of a permanent character on the Colorado Chiquito E. of the San Francisco mts., where ruins were pointed out to Powell by a Havasupai chief as the former homes of his people. As the result of war with tribes farther E., they abandoned these villages and took refuge in the San Francisco mts., subsequently leaving these for their present abode. In this connection it is of interest to note that the Cosnino caves on
[172] the upper Rio Verde, near the N. edge of Tonto basin, central Arizona, were named from this tribe, because of their supposed early occupancy by them. Their present
361 village, composed of temporary cabins or
● 342 shelters of wattled canes and branches and earth in summer, and of the natural
131 caves and crevices in winter, is situated 115 m. N. of Prescott and 7 m. S. of the Grand canyon. The Havasupai
142 are well formed, though of medium stature. They are skilled in the manufacture and use of implements, and
105 especially in preparing raw material, li e buckskin. The men are expert hunters, the women adept in the manufacture of baskets which, when lined with clay, serve also as cooking utensils. Like the other Yuman tribes, until affected by white influences during recent years, their clothing consisted chiefly of deerskin and, for the sake of ornament, both men and women painted their faces with thick, smooth coatings of fine red ocher or blue paint prepared from wild indigo; tattooing and scarification for ornament were also sometimes practised. In summer they subsist chiefly on corn, calabashes, sunflower seeds, melons, peaches, and apricots, which they cultivate by means of irrigation, and also the wild datila and mescal, in winter principally upon the flesh of game, which they hunt in the surrounding uplands and mountains. While a strictly sedentary people, they are unskilled in the manufacture of earthenware and obtain their more modern implements and utensils, except basketry, by barter with the Hopi, with which people they seem always to have had closer affiliation than with their Yuman kindred. Their weapons in war and the chase were rude clubs and pikes of hard wood, bows and arrows, and, formerly, slings; but firearms have practically replaced these more

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maps the San Francisco mountain is represented as belonging to the continuous Mogollon chain, which comes from the east southeast, and was called Sierra de los Cosninos, the name of a tribe of Indians inhabiting this region. I am under the impression that Leroux, the early explorer in that part of the country was finally murdered by the Cosninos, but I do not remember that the account has ever been printed." Whipple also refers to the "Cosnino caves," remarking that "the Cosnino caves had been plastered with mortar, showing more artistic skill than is practiced by the present occupants of the country" (*loc. cit.*, p. 15). And again on page 19 he goes to show that, taken collectively, the Pontos, Cosninos, and Yampais together number 6,000 souls; of these 2,000 were Yampais (p. 17). But all this is very brief and unsatisfactory. 175 114

Capt. John G. Bourke in his work on "The Snake-dance of the Moquis of Arizona" (1884), says, "At Keam's ranch we met Mr. Alexander Steven, a bright Scotchman who during the past 12 years has had considerable experience as a metallurgist and mining prospector in Nevada and Utah. He gave me a thrilling account of his journey westward to the country of the Cohoninos, a tribe of Indians living in the cañon of Cataract Creek, near its junction with the Grand Cañon of the Colorado in this Territory.

"They number only from forty to fifty warriors, live in the cliffs in winter, and build 'wickyups' or sapling lodges in summer. They say that the Hualpais (Wolapais), Apache-Mojaves, and themselves are all one people—Cohoninos—but that *their* proper designation is the "Ah-Supai. 175 101 [342]

"They raise an abundance of finest peaches, good corn and melons, and weave unusually fine and beautiful baskets. They are great hunters, and eke out a living by trading off buckskins, and sometimes mountain lion pelts, to the Moquis, Navajos, and Apaches. 175 [241] [285] [439]

"The cañon in which they dwell is 4,500 feet deep, and is that of the Cataract Creek, a strong body of clear water tumbling by a series of cascades into the Grand Cañon of the Colorado, 1,500 feet still deeper, and separated from their village by a series of blood-curdling precipices and chasms" (pp. 80, 81). Captain Bourke, in speaking of the Moquis, says further, that "Intimate commercial relations are maintained with the Cohoninos or Ava-Supais on the west (*loc. cit.*, p. 254). [33] [439]

In a lecture before the National Academy of Sciences, delivered in Washington, April 22, 1882, Mr. Frank H. Cushing in referring to the Zunians said, "Interesting among the hero-gods is the great priest of all religious orders save that of the bow, *Poskai Auk'ia*. In the days of the new, yet not until after men had begun their journey toward the east, he is supposed to have appeared among the ancestors of the Zuñis, the Taos, the Coconinos, and the Moqui Indians, so poor and ill-clad as to have been ridiculed by mankind." This lecture was afterwards published in The Popular Science Monthly, of New York (1882, p. 191). 114 193

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175 Mr. Cushing's best account of these people, however, is published in another connection, wherein he relates how he made a long and dangerous journey from Moqui to the Supai Cañon.*

Following his description of hazardous descent into that fearful gorge, Cushing goes on to say in his article, that "the first Ha-va-su-pai I saw
[291] may be taken as a type of his race. But lightly clothed, a strange close head-band around his temples, he swiftly passed from one bush to another as we we emerged from the little grove. Below us stretched a
[133] green, moist plain of sandy soil, nearly two miles long by half a mile at its greatest width. We could catch only occasional glimpses of it through the rank growth of willows, the leaves of which everywhere brushed our heads as we rode along the river trail; these glimpses,
[241] however, revealed numerous cultivated fields of corn, beans, sunflowers, melons, peaches, apricots, and certain plants used in dyeing and basket making, and usually carefully protected by hedges of wattled willows
[312] or fences of cottonwood poles. Everywhere these fields were crossed and recrossed by a net work of irrigating canals and trails. Here and
[342] there were little cabins, or shelters, flat-roofed, dirt-covered, and closed in on three sides by wattled flags, canes, and slender branches, while the front was protected by a hedge like those of the fields, only taller, placed a few feet before the house, and between which and the house burned smoky fires."

"The houses were always nestled down among the thick willows
[361] bordering the river, or perched on some convenient shelf, under the shadows of the western precipice. In several places, within some of the great horizontal cracks of these western cliffs, and often high up, were little buildings of stone laid in mud plaster, and not unlike the cliff dwellings we had observed on the way down, and of which ruins exist in almost every cañon throughout the great southwest."

"When we again caught sight of our Kuhni, in a little opening near the trail, he was evidently uncertain whether to run forward and warn the tribe—whose voices, mingled with the barking of dogs and the murmuring of the river, could be heard below—of our coming, or wait to greet us. Finally, he shouted in a rapid, gurgling, soft sort of language, that the villagers were coming; and then, with sort of a questioning smile, turned toward us, keeping up a ceaseless gibberish, but eyeing me closely, and evidently thinking me the most curious member of the
114 175 party."

The only other facts of importance given in this narrative are that
[756] those Indians have their medicine men and use the "sweat house," a
[515] plan of treatment seen among many other tribes. They have a great
[231] number of dogs about their village, and many of the families are blessed
[648] with from five to six children. They are, so far as the writer is aware, upon excellent terms of friendship with the whites. I am not aware

*Cushing, Frank Hamilton. "The Nation of the Willows." The Atlantic Monthly, September, 1882, pp. 362-374. The quotation I make is from page 374.

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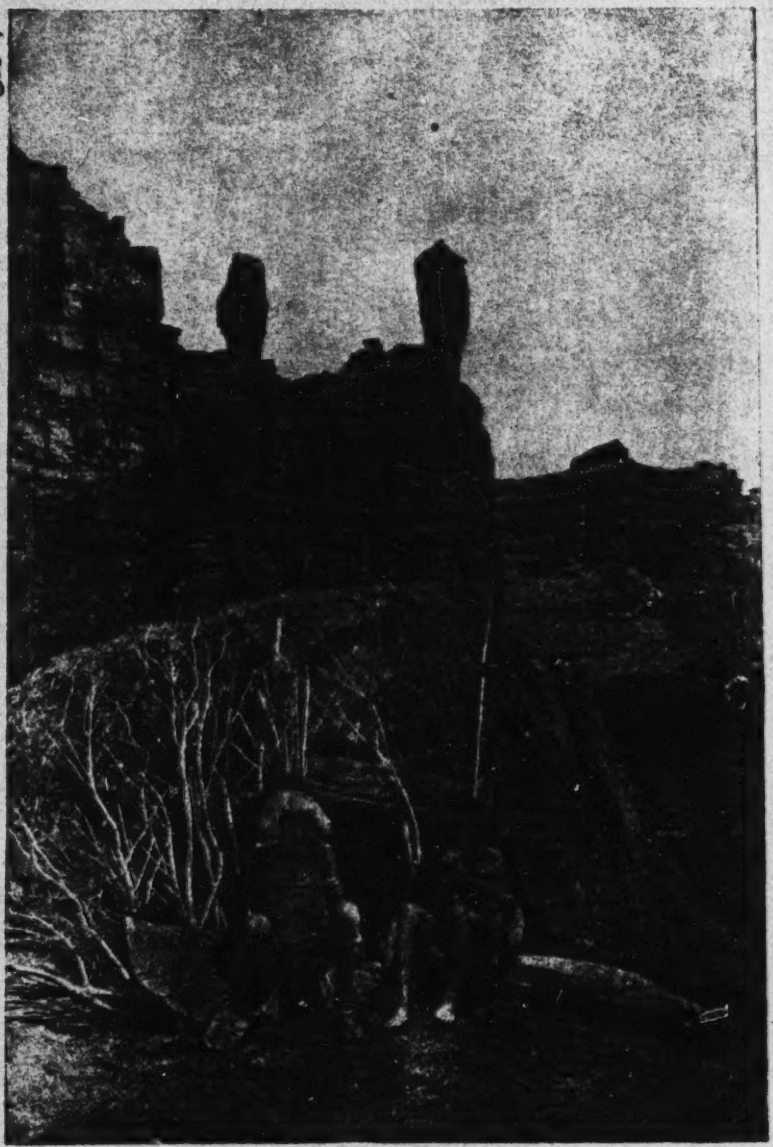

AN AGED PAIR OF HAVESU-PAI INDIANS.

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AN HAVESU-PAI LODGE IN SU-PAI CAÑON, ARIZONA.

The Nation of the Willows.

I

291 The first Ha-va-su-pai I saw may be taken as a type of his race. But lightly clothed, a strange close head-band around his temples, he swiftly passed from one bush to another as we emerged from the little grove. Below us stretched
133 a green, moist plain of sandy soil, nearly two miles long by half a mile at its greatest width. We could catch only occasional glimpses of it through the rank growth of willows, the leaves of which everywhere brushed our heads as
241 we rode along the river trail. These
311 glimpses, however, revealed numerous cultivated fields of corn, beans, sunflowers, melons, peaches, apricots, and certain plants used in dyeing and basket-making, and usually carefully protected by hedges of wattled willows or fences of cotton-wood poles. Everywhere these fields were crossed and recrossed by a net-work of irrigating canals and trails.
342 Here and there were little cabins, or
361 shelters, flat-roofed, dirt-covered, and closed in on three sides by wattled flags, canes, and slender branches; while the front was protected by a hedge like those of the fields, only taller, placed a few feet before the house, and between which and the house burned smoky little fires. The houses were always nestled down among the thick willows bordering the river, or perched on some convenient shelf, under the shadows of the western precipice. In several places, within some of the great horizontal cracks of these western cliffs, and often high up, were little buildings of stone laid in mud plaster, and not unlike the cliff-dwellings we had observed on the way down, and of which ruins exist in almost every cañon throughout the great Southwest.

123 When we again caught sight of our
609 Kuhni, in a little opening near the trail, he was evidently uncertain whether to

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[previous portion of this article not processed]

The
181 women excel the men in such dexterity,
461 being wonderfully apt and graceful in the use of the hand in making baskets or preparing food. The men are expert
[224 hunters, and constantly practice marks-
411] manship with bows and arrows and rifles. They are doubtless endowed with elements of progression, as shown by their habit of always adopting and profiting by improvements or advantages of other nations, when once convinced of their
[562 superiority. The women are certainly
151] duller and less impressionable than the men, but far more thoughtful, and apparently quite sage in some of their reflections, their opinion being at times sought, in ultimate cases, by the latter.

● 342 The habitations of the Ha-va-su-pai are of three kinds, two of which I have already mentioned. Often, those above the river are conical, half-underground structures, made by supporting three forks against one another, laying lesser poles around these in a circle, and covering the whole with sticks, flags, grasses, and dirt, extending the front out in the shape of a veranda; or, again, by combining the square and the round forms in one, the latter serving as a retreat during severe weather. Anciently, the stone house, of good proportions, and not unlike the Pueblo architecture, except from the fact that it never exceeded one story, was sometimes used, as attested by ruins, of which several plans occur among my notes.

342 Strangest of all, however, with their
172 lesson for the speculative archæologist, are the little cliff dwellings of stone and mud, before mentioned. Though ruder than the wonderful remains of similar character in other parts of the West, ruins which have attracted world-wide attention and speculation, they are identical with them, and are the only examples of recently-built and still-occupied cliff dwellings. Furnishing clews
343 to the uses of the lesser rooms and
172 niches in the prehistoric cliff ruins, are the hundreds of little *caches*, or grana-

343 ries, which, sometimes miles away from
172 the permanent village, and often in
almost inaccessible places, everywhere
occur in nooks and shelves throughout
the cañon. Equally interesting are
342 the strange, conical little sweat-houses,
343 built of sticks, grasses, etc., and closely
roofed with dirt, as well as the bark and
cedar-brush wigwams and shelters, which
[224] the Ha-va-su-paí build far and wide, dur-
[221] ing their winter hunts, throughout the
forest-covered plains of the desert above
and around their cañon.

438 For a few years past, the Ha-va-su-
paí have been in the habit of procur-
ing, by barter with the Hua-la-pai, cast-
off soldier and other American clothing,
which is worn to a considerable extent
291 by the men. The native costume, how-
ever, is not rare. It consists simply of
a coat made from a single deerskin, a
transverse slit in the centre serving as
neck-hole; the sleeves, of two pieces of
the same material, heavily fringed, are
attached to the edge of the skin, either
side of the neck-hole, and open down as
as far as the elbows. Save the seams
at the shoulders and from the elbows
to the wrists, no sewing is necessary in
this peculiar coat; yet it is made to fit
admirably by means of a belt or band,
with which the ends falling down front
and back are gathered about the waist.
Add to this the breech-clout of soft,
fringed doe-skin, wild-cat or rabbit skin,
close-fitting leggins fringed down the
front, — though quite as often the legs
are bare, — and a pair of heavy, doubly
or trebly, raw-hide-soled moccasins of
buckskin, which reach above the ankles
like buskins, and the dress of the Ha-
va-su-paí man is complete. To all this,
[554] however, the Pueblo blanket is an addi-
tional luxury, possession of which is in-
dispensable to good standing in the tribe.
The dress of the women is yet more
simple. It consists of a long fringed
apron of red buckskin, buttoned toget-
her behind, extending from the breast —
where it is secured by a strap around

The /99 cont./
131 inaccessibility of their cañon home has tended to keep them
177 immune from outside influences, so that in many ways their
life is still delightfully primitive. Their typical dwelling
342 consists of a framework covered with brush or tule and sometimes with an outer covering of earth. In summer a four-post brush shelter is erected, which affords protection from the sun and allows free circulation of air.

262 The agave plant, cut and prepared in much the same way as by the Apache, has always been an important article of food among these people. Other native vegetal foods are grass seeds
224 and piñon nuts. From time immemorial the Havasupai have
[221] been hunters. On the approach of winter they left the cañon for the upper levels, built wickiups of boughs and bark, and spent the cold season in hunting. Deer were the principal game, although they killed some mountain sheep and an occasional black
[251] bear. Much of the venison was cut in thin strips and dried for
237 summer use. Deerskin dressed by the Havasupai was considered
281 the best by all neighboring tribes; consequently, it not only
[439] furnished clothing, but was an important medium of barter. But the life of the Havasupai has changed. Game is scarce, and
177 224 the Government does not willingly grant them permission to
648 hunt on the surrounding mesas, hence there is little wonder that the wrinkled veterans long for the old days when game was plentiful and they hunted where they would. "Now all is changed," they say. "We cannot go out of the cañon without asking the white man. We dare not hunt deer, as the game must be saved for the Háiko. We are no longer men; we are like little children; we must always ask Washington!"

241 Corn is now their chief staple, besides which they raise
262 beans, squashes, melons, pumpkins, sunflowers, peaches, apricots,
171 and figs. They prepare corn in countless ways, corresponding
252 largely to those of the Hopi. In fact, the modes of preparing corn by all tribes of /100/ the Southwest are much the same. Much of the crop is allowed to ripen on the stalk; this is later ground into meal on the metate. Quantities of green corn are harvested, roasted in large pits with the husks on, and hung to dry. This may be ground or simply shelled and cooked, either alone or with beans, meat, and dried squash. Like the figs, their